

WUNDERLICH

ARCHITECTURAL TERRA COTTA



BULLETIN T.C. No. 1

Terra Cotta in Combination
with Other Materials

INTRODUCTION

INTRODUCING this, the first of a series of publications featuring Wunderlich Architectural Terra Cotta, we feel that few words of ours are necessary in justification of such a "facing" medium. Architectural Terra Cotta, defined basically as burned clay, is a time-proven material. In its primitive form—simply as inscribed tablets of burned earth—it has provided many of the earliest records of our ancestors. Used regularly throughout subsequent centuries it has assumed more glorified forms, reaching a high degree of excellence during the sixteenth century, this period supplying innumerable examples which to-day testify to the singular beauty and imperishable nature of Terra Cotta.

EVEN were history silent as to the achievements of this medium, the work carried out in recent years in Europe and America would, of itself, call for the fullest investigation of Architectural Terra Cotta, and for its adoption eventually in high-class building construction, with resultant economy and decided enhancement of decorative effect. In New York more than half of the building material of the "down-town" sky-line is Terra Cotta. During the present year upwards of 160,000 tons of the material will be produced in the United States.

HOWEVER, convincing as are these facts—ample precedent for the use of Terra Cotta—there yet remains our obligation to demonstrate that such a medium produced in Australia will yield equal results and so justify any confidence

reposed in it. In this respect we urge our long record of success in pioneering other materials now famous—Terra Cotta Roofing Tiles in particular. Then, too, we are inviting patronage only after a long period of experimental work, conducted by highly technical and experienced ceramists, who were associated with the production of "facings" for many of New York's towering buildings. Finally, we point to the evidence herein provided of actual success that has marked our efforts; a success which the architects, Messrs. Hennessy, Hennessy, Keesing and Co. confirm in the following communication to us:—

"Now that the contract for the Chapel for the Christian Brothers' Novitiate at Strathfield has been completed, we take this opportunity of congratulating you on the excellent manner in which you have carried out the Terra Cotta to our details, and for the way in which every piece accurately fitted. We have no hesitation in saying that if, in the future, your workmanship keeps up to the present standard, we shall be using a large amount of Australian Terra Cotta in our buildings."

THAT other architects have been inspired by our ability to worthily interpret their conceptions in Terra Cotta is evidenced by the fact that we are at the moment engaged on the production of "facings" for a total of eight buildings, situated in three Australian States.

WITH complete confidence that results will impress you also, we invite your acceptance of Architectural Terra Cotta, and gladly offer our heartiest co-operation to render its adoption both simple and pleasing.

Bulletin T.C.I.

December, 1925.

WUNDERLICH LIMITED,

Manufacturers.

WUNDERLICH LIMITED, MANUFACTURERS OF ARCHITECTURAL TERRA COTTA

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Hennessy, Hennessy, Keesing and Co., Architects

Kell and Rigby, Contractors

Chapel for the Christian Brothers' Novitiate, Strathfield, Sydney

This view illustrates the ornamental features in Wunderlich Architectural Terra Cotta to a brick structure. Entrance Columns and Archivolt, Wheel Window, Columns to Clerestory Lights and Campanile, Cartouche and Lions' Heads are all executed in Terra Cotta resembling in texture Sydney sandstone, although of a somewhat lighter colour.

WUNDERLICH ARCHITECTURAL TERRA COTTA

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Featuring the use of Wunderlich Architectural
Terra Cotta, in combination with other materials

ARCHITECTURAL
TERRA COTTA, since its modern revival, has been employed so consistently as the entire "facing" for buildings that one is apt to overlook its value as a medium for use in combination with other materials, such as brick, stone, stucco or concrete.

The fact remains, however, that Architectural Terra Cotta, considered merely as a medium for giving expression to the decorative detail of a structure, fulfils the purpose so faithfully and economically as to suggest its employment on any high-class building construction.

In this manner Architectural Terra Cotta has been used in past ages; hence it is appropriate that the first Wunderlich treatment carried out in New South Wales should have embraced the ornamental features and embellishments in Terra Cotta to an ecclesiastical structure built of brick.

True to Precedent

The building referred to, the Christian Brothers' Chapel, Strathfield, Sydney, is designed in the Romanesque style, which fittingly justifies the use of Architectural Terra Cotta; for the Romanesque architects were builders in burned clay, and any modern adaptation of the style discovers in Terra Cotta a material which, being true to precedent, offers exceptional facilities for the faithful expression of characteristic details.



A beautiful Terra Cotta rendering of the Romanesque details of a Wheel Window.

Chaste and Dignified Appearance

From the point of view of appearance, the Wunderlich Architectural Terra Cotta has enlivened and enriched the exterior of this Chapel, imparting a chasteness and dignity which have impressed those beholding it. Set, as it is, in an architectural conception of particular excellence, this example of Terra Cotta will undoubtedly inspire many a treatment of similar nature in future years.

Economy of Ornamental

Treatment

Utilised in this way, in harmony with brick or other wall surfaces, Terra Cotta presents many unrivalled features. It places less restriction on the designing and repetition of ornamental details, for Terra Cotta responds readily to modelled treatment, and recurring ornament can be produced economically by means of moulds that are cast from the original model. Thus, instead of the costly hand-carving of each specific unit, there is need for one model only, the cost of which is distributed fractionally amongst all the repeated units. Carried out in this manner, ornament rather gains in vigour, for soft clay is easily moulded into form while the modeller's ideas are fresh in mind, and the finished Terra Cotta frequently possesses a spirit and virility which can hardly be reproduced in laboriously-finished stone or marble.

(Continued on page 12)

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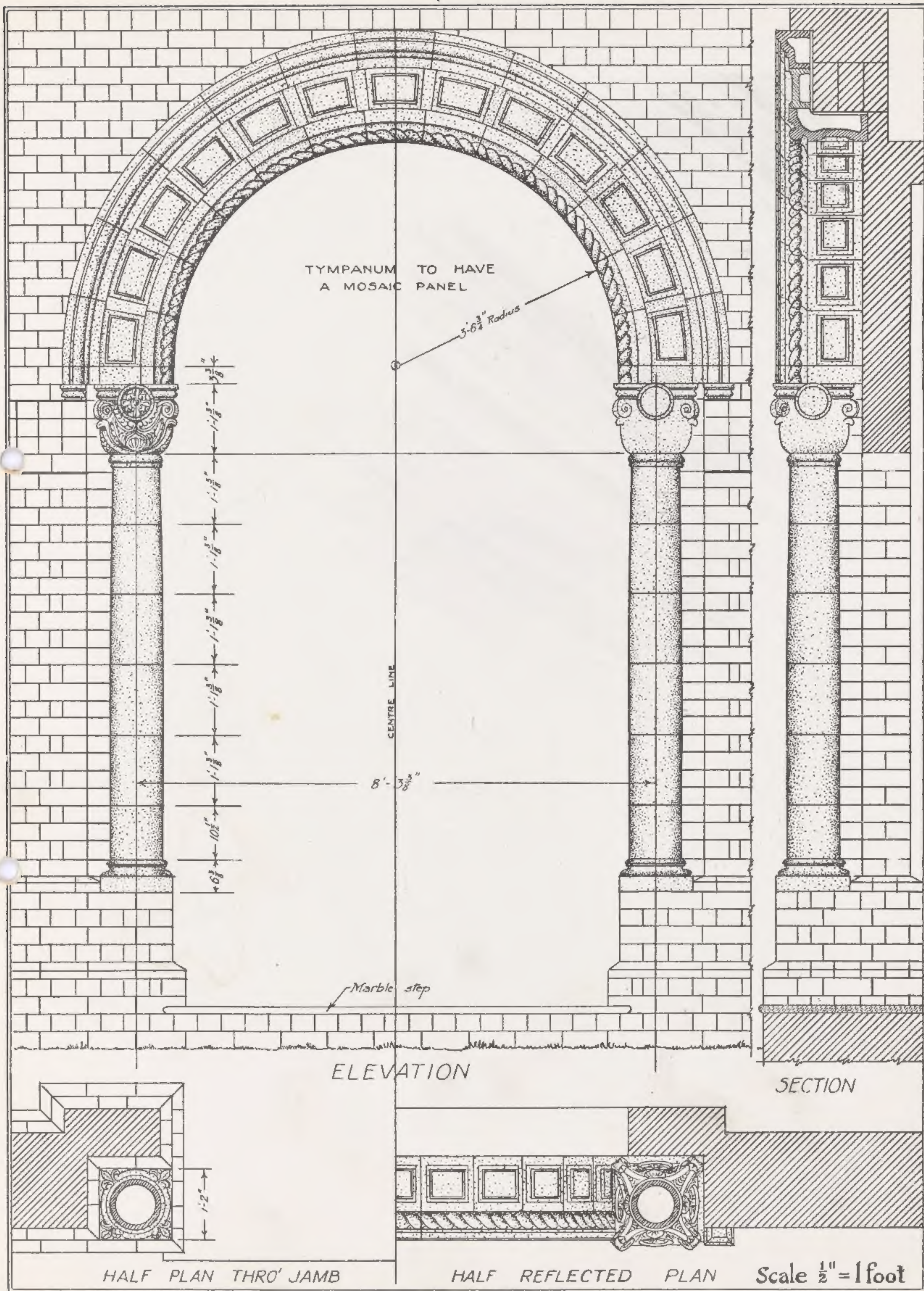
Hennessy, Hennessy, Keesing and Co., Architects

Kell and Rigby, Builders

Chapel for the Christian Brothers' Novitiate, Strathfield, Sydney

The Romanesque architects knew and utilised Terra Cotta extensively; hence, in this modern adaptation of the style, true accord with precedent is established by executing in Architectural Terra Cotta the decorative features of the Chapel.

Interesting working details, depicting the plan, elevation of, and section through the Terra Cotta Entrance Treatment pictured above, are shown on page 6. Note the relation maintained between Terra Cotta units and brick courses.





Hennessy, Hennessy, Keesing and Co., Architects

Kell and Rigby, Builders

Chapel for the Christian Brothers' Novitiate, Strathfield, Sydney

Repetition of ornamental units, as exemplified in this illustration of the Wheel Window and Columns to Clerestory Lights, presents an ideal opportunity for the employment of Terra Cotta; for, once the initial model is made, numerous identical pieces can be produced quickly and economically by the use of a mould cast from the model.

On page 8 are shown the working details of the Terra Cotta Treatment to the Wheel Window.

WHEEL WINDOW ~ Chapel of Mount & Mary ~ Strathfield ~ N.S.W

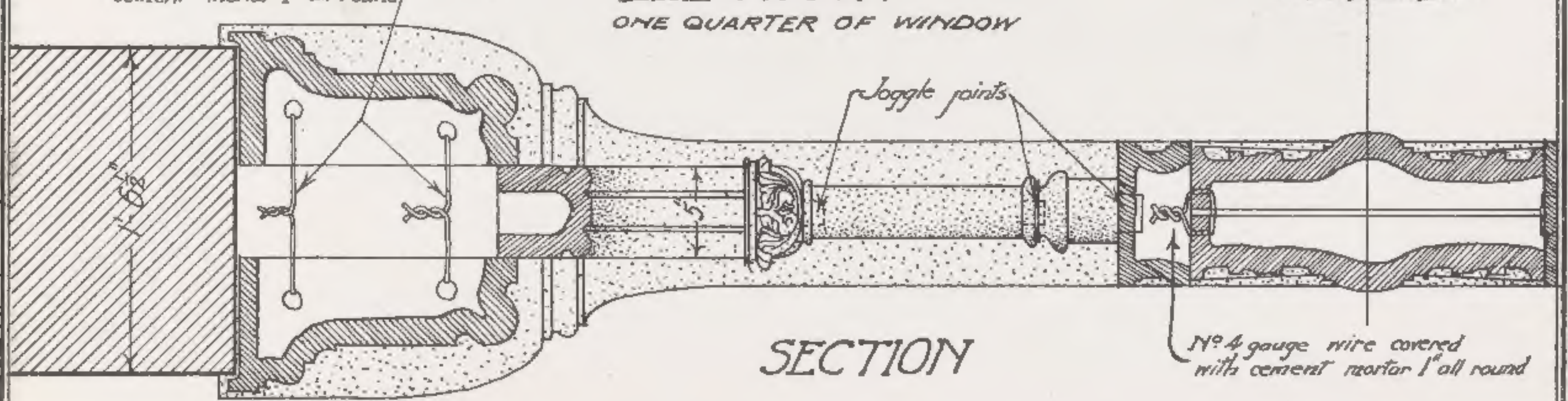
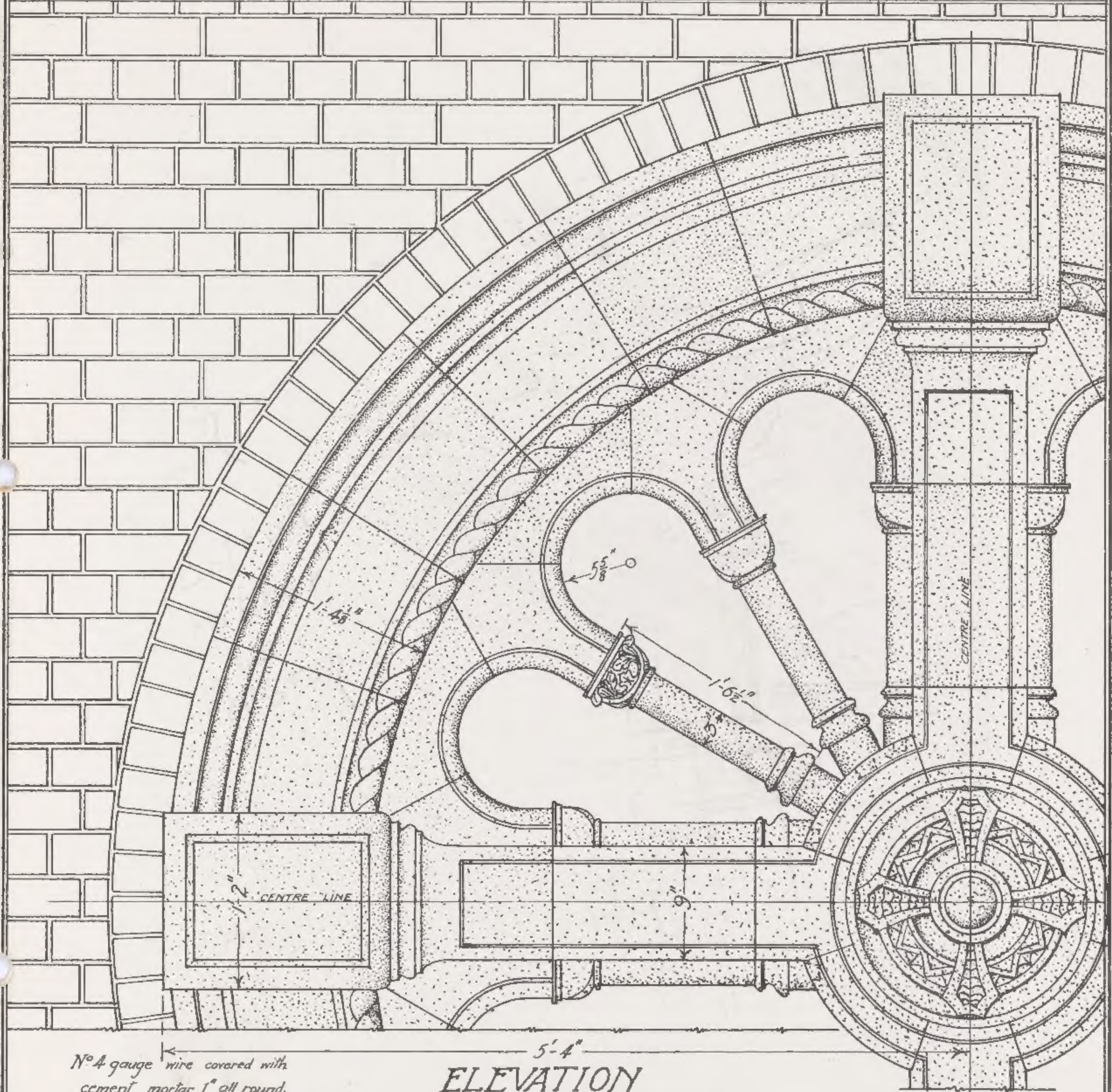


PLATE N° 1

WUNDERLICH

LIMITED

Scale 1" = 1 foot



Romanesque Columns, executed in Terra Cotta

Here are shown Terra Cotta Columns assembled and fitted ready for measuring—a check which we apply to all finished work. Accuracy is thus assured, as is borne out by the following remarks from the contractors for the Chapel, Messrs. Kell and Rigby:—"The material worked in splendidly, and in accordance with details given to us by the architect. It is one of the main features of the building, and a very fine sample of this class of work."



Romanesque Ornamental Features in Terra Cotta

With a faithfulness that gives joy to the designer, Terra Cotta reproduces every ornamental detail. Finished in a light sandstone shade, the decorative features illustrated above have been given sharper relief by the application of a pastel green glaze in the recesses of the ornament. Deep colour, utilised in this manner, emphasises the difference between background and projections, thus enabling low-relief ornament to carry effectively at great heights.



Gawler and Drummond, Architects

Christiani and Nielsen, Contractors

Business Premises for Duerdin and Sainsbury Ltd.

View of the Entrance Treatment, comprising glazed wall tiles and Wunderlich Architectural Terra Cotta, to a concrete structure. The Lintel, Pediment Cornice, Architrave, Shield Ornament and Rosettes were executed in Glazed Terra Cotta of a spotted dull sap-green shade, the lettering being treated in golden yellow glaze.

Wide Range of Colours

Likewise, in colour, Terra Cotta affords the means of achieving distinctive and striking results unattainable in any other high-class material; for there are available not only the normal colours common to burned clay, such as greys, buffs, reds and browns, but also a variety of shades produced by imparting a glazed surface to the exposed portions of each block. Such glazes may be either lustrous, like polished glass, or dull matt, simulating the appearance of egg-shell, and may partake of almost any desired colour, ranging from white through shades of cream to deep ivory, various degrees of buff, grey, red, bright blues, green, purple, lavender, yellow, and even gold and vermillion.

Terra Cotta thus provides an almost unbounded palette for the richest effects in colour design. Accurate execution of colour schemes is assured, with only those slight variations of shade in the individual pieces which enhance the interest of colour expression.

Various Surface Textures

While Terra Cotta in glazed colours is usually produced with a smooth surface, unglazed material may be obtained in a variety of texture finishes practically without limit. From natural clay finish the range extends to honed, stippled or similar surfaces of a rough or textured nature.

Cleanliness and Permanence

Further points of appeal are the cleanliness and permanence of Terra Cotta. It is the most durable material known for the facing of buildings. Glazed or slipped surfaces render it impervious to moisture, and it offers little encouragement for dust, dirt or smoke to settle. Every shower of rain helps to renew the freshness of the surfaces, which may eventually, if so desired, be restored to the original lustre by the application of soap and water. After generations of existence

Architectural Terra Cotta continues to exhibit its pristine form, colour and finish, suffering no depreciation in value through the passage of time.

Fireproof

Of equal importance is the fireproof nature of Terra Cotta. Having already, in its manufacture, experienced a temperature exceeding 2,000 degrees, it is unharmed by the heat of a conflagration. Accordingly, its use in modern fireproof construction is highly warranted.

Easily United to Structures

When employed in conjunction with brick, stone, or some similar material, Terra Cotta is bonded quite simply to the other work, provision being made for this in the designing of the treatment, thus assuring proper relation with the various courses. In the case of concrete or steel frame construction, the Terra Cotta is manufactured to accord with the configuration of the building, and is readily tied or anchored to the structural frame.

Speedily Prepared

Another feature of importance is the speed with which a Terra Cotta treatment can be prepared. Once the initial models are made, repetition of units is a simple matter, and even an entire "facing" can be made available quickly, thus obviating the costly delay which hand-carved materials usually involve.

Advantage in Price

Although the cost of a Terra Cotta treatment can only be determined after specific information has been supplied us, this being accounted for by the fact that every piece has to be made for the exact position in which it will be used, yet, generally speaking, the facility of producing repeated units, especially where of an ornamental nature, gives Terra Cotta an advantage in price over materials of equal dignity.

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A Description of the Material, and its Manufacture

TERRA COTTA, as its name indicates, is burned earth. Certainly, the modern product, as used to-day for the "facing" or embellishment of buildings, is a highly perfected and dignified form of ceramic ware; but the fact remains that Architectural Terra Cotta is still, basically, clay, and that burning at a high temperature is still the essential process in converting the raw form into the finished material.

This medium may, of course, assume almost any shape, from the ordinary ashlar to the most ornamental elaboration of decorative form; but, considered in its simplest state, merely as ashlar,



This is a view of the clay model of the shield ornament illustrated in the pediment on page 11. The original photo, in accordance with our custom, was submitted to and approved by the architect prior to the moulds being made. Terra Cotta will be found to offer the sculptor an unrivalled medium for expressing his art.

Architectural Terra Cotta may be described as slabs of burned clay, usually about four inches thick, hollowed out at the back, so that the block actually comprises face, horizontal sides, and ends, with one or more intermediate stiffening ribs where necessary for strength. Reference to the sectional details on pages 6 and 8 of this publication will render this definition more explicit.

The carrying out of a contract for Terra Cotta involves the exercise of considerable knowledge and skill. With the architect's plans as a basis, shop drawings are prepared showing the jointing and construction of the work, and each specific piece of Terra Cotta is given a distinguishing number. Following receipt of the architect's approval, models are made for ornamental features, and plaster moulds are then prepared for the various different pieces. Into these moulds the prepared clay is pressed, assuming the desired shape and form, provision being made, of course, for the shrinking which will take place in the burning.

The clay used for the purpose is the result of careful selection and testing, the correct mixture being determined only after exhaustive experiment and analysis. When the necessary number of blocks of each size have been pressed from the moulds a process of drying takes place, following which the colour glaze, where specified, is applied, and the material is set in the kilns.

Burnt to a great heat, the Terra Cotta body is partially vitrified, becoming exceedingly hard, while the surface colour develops by chemical reaction and the glaze vitrifies.

Finally, the burnt Terra Cotta is removed to the fitting shops, assembled, inspected, measured, and packed carefully for delivery. Every piece bears the distinguishing mark corresponding to its position as indicated on the reference drawing of the building concerned.

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Estimating and Delineation

During the preliminary stages of any work involving Terra Cotta, architects will find the following information of service:

WUNDERLICH ARCHITECTURAL TERRA COTTA is not a material which can be priced in terms of so much per unit. Each piece is made for a specific position on a building, and the cost is governed by such considerations as the size of the entire work, the colour scheme desired, the amount of ornamental detail, and the quantity of repetitive pieces.

Estimates Based on Drawings

Accordingly, in order to furnish a useful estimate of cost, we should be supplied with drawings of the proposed work, comprising scale plans, elevations and sections, accompanied by clear indications as to the extent and character of the modelling and colour scheme involved. If the entire "facing" is not to be executed in Terra Cotta, the actual portions required of us should be defined.

Early Co-operation is Desirable

Benefit may accrue from enlisting our early co-operation, as we may be able to suggest alterations which, without detracting from the design, will materially cheapen the manufacture of the Terra Cotta. It is important that the whole question of the Terra Cotta should be settled before the structural parts of the building are finalised, as all necessary channels, angles, brackets, hooks, clips, etc., must be included in the structural engineer's scheme, and built into the building during the course of its erection.

Size Limitations

In designing a Terra Cotta treatment it is essential to bear in mind that there is a limit to the economical size of a block. The usual depth on the bed for "facing" blocks is 4 inches, and a good working size for ashlar is from 16 to 20 inches long by 12 to 15 inches high. Frequently it is necessary to make cornice, string course and ornamental blocks somewhat larger, but, by limiting the sizes to those mentioned, architects will simplify the handling on the job and minimise the possibility of twisting and warping during manufacture.

Economy in Standardisation

An endeavour should be made to standardise the sizes of blocks, where this is consistent with good design, for greater economy in manufacture will result. Models and moulds have to be made for each different shape, and the greater the number of pieces of any particular shape, the cheaper each piece will become. Awkward projections and pieces of irregular shape should be avoided.

Enquiries Invited

In each capital city of the Commonwealth we have a staff possessing a wide experience of building requirements, and enquiries relating to Architectural Terra Cotta will be dealt with intelligently. Clients seriously considering the use of this material on work in view are invited to enlist our co-operation early, when samples, quotations, and suggestions will be provided.

WUNDERLICH LIMITED, MANUFACTURERS OF ARCHITECTURAL TERRA COTTA



TRADE

MARK

An Australian Product,
manufactured at
Rosehill, N.S.W., and
Sunshine, Victoria.